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### 1 [Efficient software model checking of data structure properties](#)



Paul T. Darga, Chandrasekhar Boyapati

October 2006 OOPSLA '06: Proceedings of the 21st annual ACM SIGPLAN conference on Object-oriented programming systems, languages, and applications

Publisher: ACM

 Full text available: [pdf\(350.97 KB\)](#)

 Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 11, Downloads (12 Months): 121, Citation Count: 2

This paper presents novel language and analysis techniques that significantly speed up software model checking of data structure properties. Consider checking a red-black tree implementation. Traditional software model checkers systematically generate ...

Keywords: program analysis, software model checking

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### 2 [Ext3cow: a time-shifting file system for regulatory compliance](#)



Zachary Peterson, Randal Burns

May 2005 ACM Transactions on Storage (TOS), Volume 1 Issue 2

Publisher: ACM

 Full text available: [pdf\(443.01 KB\)](#)

 Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 11, Downloads (12 Months): 112, Citation Count: 10

The ext3cow file system, built on the popular ext3 file system, provides an open-source file versioning and snapshot platform for compliance with the versioning and auditability requirements of recent electronic record retention legislation. Ext3cow ...

Keywords: Versioning file systems, copy-on-write

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### 3 [The Vesta parallel file system](#)



Peter F. Corbett, Dror G. Feitelson

August 1996 ACM Transactions on Computer Systems (TOCS), Volume 14 Issue 3

Publisher: ACM

 Full text available: [pdf\(649.08 KB\)](#)

 Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 66, Citation Count: 32

The Vesta parallel file system is designed to provide parallel file access to application programs running on multicomputers with parallel I/O subsystems. Vesta uses a new abstraction of files: a file is not a sequence of bytes, but rather it can be ...

Keywords: data partitioning, parallel computing, parallel file system

#### 4 [Content and expression-based copy recognition for intellectual property protection](#)



Özlem Uzuner, Randall Davis

October 2003 DRM '03: Proceedings of the 3rd ACM workshop on Digital rights management

Publisher: ACM

Full text available: [pdf\(282.83 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 76, Citation Count: 0

Protection of copyrights and revenues of content owners in the digital world has been gaining importance in the recent years. This paper presents a way of fingerprinting text documents that can be used to identify content and expression similarities ...

Keyw ords: content and expression based copy recognition, copy recognition, distribution volume tracking, part-of-speech tagged features, semantic features, surface parsing, syntactic parsing

#### 5 [Rapid file system development using ptrace](#)



Richard P. Spillane, Charles P. Wright, Gopalan Sivathanu, Erez Zadok

June 2007 ExpCS '07: Proceedings of the 2007 workshop on Experimental computer science

Publisher: ACM

Full text available: [pdf\(192.70 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 16, Downloads (12 Months): 133, Citation Count: 0

Developing kernel-level file systems is a difficult task that requires a significant time investment. For experimental file systems, it is desirable to develop a prototype before investing the time required to develop a kernel-level file system. We have ...

Keyw ords: monitors, rapid prototyping

#### 6 [The specification and testing of quantified progress properties in distributed systems](#)

Prakash Krishnamurthy, Paolo A. G. Sivilotti

July 2001 ICSE '01: Proceedings of the 23rd International Conference on Software Engineering

Publisher: IEEE Computer Society

Full text available: [pdf\(149.64 KB\)](#) [Publisher Site](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 22, Citation Count: 1

*There are two basic parts to the behavioral specification of distributed systems: safety and progress. In earlier work, we developed a tool to monitor progress properties of CORBA components specified using the temporal operator transient. In ...*

#### 7 [The space cost of lazy reference counting](#)



Hans-J. Boehm

January 2004 POPL '04: Proceedings of the 31st ACM SIGPLAN-SIGACT symposium on Principles of programming languages

Publisher: ACM

Full text available: [pdf\(125.88 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 46, Citation Count: 0

Reference counting memory management is often advocated as a technique for reducing or avoiding the pauses associated with tracing garbage collection. We present some measurements to remind the reader that classic reference count implementations may ...

Keyw ords: garbage collection, memory allocation, reference counting, space complexity

#### 8 [Handling Heterogeneity in Shared-Disk File Systems](#)

Changxun Wu, Randal Burns

November 2003 SC '03: Proceedings of the 2003 ACM/IEEE conference on Supercomputing

Publisher: IEEE Computer Society

Full text available:  pdf(268.40 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 26, Citation Count: 0

We develop and evaluate a system for load management in shared-disk file systems built on clusters of heterogeneous computers. The system generalizes load balancing and server provisioning. It balances file metadata workload by moving file sets among ...

## 9 [The costs and limits of availability for replicated services](#)



Haifeng Yu, Amin Vahdat

February 2006 ACM Transactions on Computer Systems (TOCS), Volume 24 Issue 1

Publisher: ACM

Full text available:  pdf(718.65 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 7, Downloads (12 Months): 177, Citation Count: 0

As raw system performance continues to improve at exponential rates, the utility of many services is increasingly limited by availability rather than performance. A key approach to improving availability involves replicating the service across multiple, ...

Keywords: Availability, continuous consistency, network services, replication, trade-off, upper bound

## 10 [Cost-efficient soft error protection for embedded microprocessors](#)



Jason A. Blome, Shantanu Gupta, Shuguang Feng, Scott Mahlke

October 2006 CASES '06: Proceedings of the 2006 international conference on Compilers, architecture and synthesis for embedded systems

Publisher: ACM

Full text available:  pdf(302.18 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 7, Downloads (12 Months): 93, Citation Count: 0

Device scaling trends dramatically increase the susceptibility of microprocessors to soft errors. Further, mounting demand for embedded microprocessors in a wide array of safety critical applications, ranging from automobiles to pacemakers, compounds ...

Keywords: embedded processors, reliability, soft errors

## 11 [Global scheduler properties derived from local restrictions](#)



Thomas Arts, Juan José Sánchez Penas

October 2002 ERLANG '02: Proceedings of the 2002 ACM SIGPLAN workshop on Erlang

Publisher: ACM

Full text available:  pdf(211.70 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 13, Citation Count: 2

The VoDka server is a video-on-demand system for a Spanish cable company. We look at the distributed scheduler of this system. This scheduler enables that whenever a user agent is asking for a certain movie, this request is transferred through the system ...

## 12 [The space cost of lazy reference counting](#)



Hans-J. Boehm

January 2004 ACM SIGPLAN Notices, Volume 39 Issue 1

Publisher: ACM

Full text available:  pdf(125.88 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 46, Citation Count: 0


Reference counting memory management is often advocated as a technique for reducing or

avoiding the pauses associated with tracing garbage collection. We present some measurements to remind the reader that classic reference count implementations may ...

Keywords: garbage collection, memory allocation, reference counting, space complexity

### 13 The Conquest file system: Better performance through a disk/persistent-RAM hybrid design

 An-I Andy Wang, Geoff Kuenning, Peter Reiher, Gerald Popek  
August 2006 ACM Transactions on Storage (TOS), Volume 2 Issue 3  
Publisher: ACM


Full text available:  pdf(1.34 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 236, Citation Count: 0

Modern file systems assume the use of disk, a system-wide performance bottleneck for over a decade. Current disk caching and RAM file systems either impose high overhead to access memory content or fail to provide mechanisms to achieve data persistence ...

Keywords: Persistent RAM, file systems, performance measurement, storage management

### 14 Verifying safety properties using separation and heterogeneous abstractions

 Eran Yahav, G. Ramalingam  
June 2004 ACM SIGPLAN Notices, Volume 39 Issue 6  
Publisher: ACM


Full text available:  pdf(235.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)


Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 28, Citation Count: 10

In this paper, we show how *separation* (decomposing a verification problem into a collection of verification subproblems) can be used to improve the efficiency and precision of verification of safety properties. We present a simple language for ...

Keywords: abstract interpretation, program analysis, safety properties, typestate verification, verification

### 15 Efficient software model checking of data structure properties

 Paul T. Darga, Chandrasekhar Boyapati  
October 2006 ACM SIGPLAN Notices, Volume 41 Issue 10  
Publisher: ACM


Full text available:  pdf(350.97 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 11, Downloads (12 Months): 121, Citation Count: 2

This paper presents novel language and analysis techniques that significantly speed up software model checking of data structure properties. Consider checking a red-black tree implementation. Traditional software model checkers systematically generate ...

Keywords: program analysis, software model checking

### 16 An accurate cost model for guiding data locality transformations

 Xavier Vera, Jaume Abella, Josep Llosa, Antonio González  
September 2005 ACM Transactions on Programming Languages and Systems (TOPLAS), Volume 27 Issue 5  
Publisher: ACM

Full text available:  pdf(2.50 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 65, Citation Count: 0

Caches have become increasingly important with the widening gap between main memory and processor speeds. Small and fast cache memories are designed to bridge this discrepancy. However, they are only effective when programs exhibit sufficient data locality. The ...

Keywords: Cache memories, genetic algorithms, padding, tiling

### 17 Verifying safety properties using separation and heterogeneous abstractions



Eran Yahav, G. Ramalingam

June 2004 PLDI '04: Proceedings of the ACM SIGPLAN 2004 conference on Programming language design and implementation

Publisher: ACM

Full text available: pdf(235.25 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 28, Citation Count: 10

In this paper, we show how *separation* (decomposing a verification problem into a collection of verification subproblems) can be used to improve the efficiency and precision of verification of safety properties. We present a simple language for ...

Keywords: abstract interpretation, program analysis, safety properties, typestate verification, verification

### 18 Cost profile of a highly assured, secure operating system



Richard E. Smith

February 2001 ACM Transactions on Information and System Security (TISSEC), Volume 4 Issue 1

Publisher: ACM

Full text available: pdf(165.98 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 96, Citation Count: 3

The Logical Coprocessing Kernel (LOCK) began as a research project to stretch the state of the art in secure computing by trying to meet or even exceed the "A1" requirements of the Trusted Computer System Evaluation Criteria (TCSEC). Over ...

Keywords: LOCK (Logical Coprocessing Kernel), security kernels

### 19 Hacking intellectual property law



Pamela Samuelson

January 2008 Communications of the ACM, Volume 51 Issue 1

Publisher: ACM

Full text available: pdf(1.26 MB) html(10.08 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 32, Downloads (12 Months): 378, Citation Count: 0

Considering how intellectual property law has evolved in response to advances in computing technologies.

### 20 Modern approaches to augmented reality



**Video files associated with this course are available from the citation page**

Oliver Bimber, Ramesh Raskar

August 2007 SIGGRAPH '07: ACM SIGGRAPH 2007 courses

Publisher: ACM





Full text available: pdf(46.17 MB)

Additional Information: [full citation](#), [appendices and supplements](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 115, Downloads (12 Months): 1195, Citation Count: 0

This tutorial discusses the Spatial Augmented Reality (SAR) concept, its advantages and limitations. It will present examples of state-of-the-art display configurations, appropriate real-time rendering techniques, details about hardware and software ...

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